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SCE/PMC/QCR/BBMP/YHK/2022-23/61

Date: 03.08.2022

To,
Executive Engineer
Yelahanka Division,
BBMP, Bangalore

Dear Sir,

"Second and Part PMC CERTIFICATE / INSPECTION REPORT"

Package Name: Restoration and Improvements of Roads from Doddaballapura Main Road to Nagarjuna College, Kaveri Layout, Chowdappa Layout, Maruthinagara, Hariraja Layout and Surrounding Areas in Ward No - 03 of Yelahanka New Town Sub Division (PACKAGE NO -12)

Sl. No.	Description	Unit	Present Measurement Qty
1	KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading to tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embarnkemnt location to a lead of 1.00 km and complete as per specifications MORTH Specification No.301 (I No-19.14,P No-143)	Cum	3626.07
2	KSRRB 300-58. Compaction of original ground by mechanical means including filling in depression occuring during rolling including cost of all labour, HOM complete as per specifications (I No-19.64,P No-147)	Sqm	1846.21
3	Construction of granular sub-base Grading-V as Sub-base and drainage layer by providing coarse graded crushed stone aggregates of granite/ trap/basalt material, mixing in a mechanical mix plant at OMC, Carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the 98 % proctor density, complete as per specifications Clause 401 of MORTH V Revision.(I No-20.5,P No-153)	Cum	1359.78
4	KSRRB M600-1.Providing and Constructing dry lean cement concrete mix CC 1:5:10 base with OPC 25mm and down size graded granite metal coarse aggregate at 0.86cum and 0.86cum and fine aggregate @0.58cum over a prepared sub-base,coarse and fine aggregate conforming to IS: 383-2016,aggregate cement ratio not to exceed 15:1.Aggregate gradation after blending to be as per Table 600-1,optimum moisture content to be determind during trial length construction,concrete strength not be determinde during trial length costruction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver,compacting with 8-10 tonnes vibratory roller, finishing and curing complete as per spectications. Clause 601 of MORTH V Revision and IS 456 Table-5 , with OPC at 150 kg/cum and coarse aggregate 0.86 cum,fine aggregate 0.58 cum using concrete Batch mix Plant at 75 cum/hr capacity with fixed form paver 22.1.2,Pg No.-174 ..	Cum	0.00

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Sl. No.	Description	Unit	Present Measurement Qty
5	Constructing un-reinforced,plain cement concrete for pavements using Grade concrete M30 over a prepared base with OPC coarse aggregate at 0.69 cum,fine aggregates at 0.46 cum,coarse and fine aggregate conforming to IS:383-2016,with Superplastizer at 3 Its conforming to IS 9103-2008.mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design,laid in approved fixed side form work (sreel channel,layning and fixing of 125 micron thick polythene fim, wedges, steel plates including levelling the form work as per drawing). & Speration the concrete with shovels, rackers compacted using needle, screed and plate vibrator and finished with floaters in a construction and longitudinal joints,including groove cutting charges,joint filler,separation membrane of impermiable plastic sheet of 125 micron,sealant primer, joint sealant, admixtures as approved, curring compound, finishing to lines and grades, textured with texturing machine, and curing including cost of all materials,labour,hire charges of machineries , all lead & lift charges etc., complete as per specifications.with OPC AT 360 kg/cum and coarse aggregate 0.69,fineaggregate 0.46cum. Item No.-	Cum	0.00
6	KSRB 4-1.6: Providing and laying in postion **Plain cement concrete of Mix 1:2:4 with OPC @ 240kgs,** with 20mm and down size graded granite metal coarse aggregates @ 0.878 cum and fine aggregates @ 0.53cum, machine mixed, concrete laid in layers not exceeding 15cms, thick, well compacted, in **foundation, plinth and cills,** including cost of all materials, labour, HOM curing complete as per specifications. Specification No. KBS 4.1, 4.2 Page No-13, Item No-4.6 ,(PWD BCSR 2018-19)	Cum	0.00
7	KSRB 4-1.3 : Providing and laying in position **plain cement concrete ofg Mix 1:4:8 with** opc @180kgs, with 40mm and down size graded granite metal coarse aggregates@0.85 cum and fine aggregates @0.57 cum machine mixed , machine mixed, concrete laid in layers mot exceeding 15cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM curing complete as per Specifications. Specifications No. KBS 4.1 , 4.2 Pg No 30	Cum	0.00
8	KSRRB 300 - Excavation for road, drains and similar works KSRRB 300-1 Earthwork excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5 m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications. MORTH / Chapter 3 (P.No-143, I.No-19.1)	Cum	0.00
9	Providing and laying plain/reinforced cement concrete for side drains using M20 nominal mix concrete with OPC at 300 kgs. with 20mm and down size granite metal coarse aggregates at 0.69 cum and fine aggregates at 0.43 cum machine mixed, well compacted for walls and bottom including centering, shuttering, cost of materials, HOM of machinery, curing etc., complete excluding cost of steel as per MORTH specification No. 1500, 1700, 2200. including cost of materials, labour, HOM complete as per specifications. Wall and Bottom Thickness 15 cm , Item No.37.59.2, Page No.271.-	Cum	0.00
10	KSRRB M 2200-6 Providing T.M.T steel reinforcement for R.C.C work including straightening, cutting, bending, hooking, placing in position, lapping and or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications. Specification No. MORTH Specification No 1600 & 2200 TMT Bars Fe 500 Page No.329 Item No 28.8.2 SR 2018-19	Tonne	0.00

Sl. No.	Description	Unit	Present Measurement Qty
11	Providing and Fixing pre cast covering Slab of 100mm thick made out of CC jelly 20mm and down size with steel reinforecement , inclunding form work, lift charges, curing including cost of all materials ,Labour,Hire charges of machineries,loading onloading,lead and lift,Transportation etc,complete. as per Engineer in-charge.(Date rate)	Sqm	0.00
12	Providing and fixing RCC precast cover slab of 230mm thick for drain in cement concrete 1:1.5:3 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)	Sqm	0.00
13	Providing and fixing pre cast solid cement concrete kerb stones made out of C.C 1:2:4 with top and bottom width 114 and 165 mm respectively , 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting, including form work, curing, including cost of all materials , labour,hire charges of machinery, loading, unloading, lead and lift, transportation ect., complete.I.No.-5.30,P.No-27 of PWD BCSR 2018-19	No	0.00
14	KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 ,Specification No.KSRRB M800 -6.P.No.180,I.No-24.1 of PW,P & IWTD SR 2018-19 ,	Sqm	0.00
15	KSRRB M400-17. Providing, laying, spreading and compacting crushed stone aggregates of granite / trap / basalt to wet mix macadam specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed materials by tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications (P.No.-155,I.No.-20.18)	Cum	1813.04
16	KSRRB M500-6. Providing and applying primer coat with S.S. bitumen emulsion on prepared surface of granular base such as WMM including cleaning of road surface and sparying primer at the rte of 0.60 kg /sqm using mechanical means complete as per specifications .Clause 502 of MoRTH V th Revision (pg No.158 I.No-21.6), Issue Rate	Sqm	9065.19
17	KSRRB 500-7. Providing and applying tack coat using 80/100 grade bitumen (VG10) on the prepared black topped surfaces at 2.5 kg per 10sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of materials , labour, HOM complete as per specification P.No.-158,I.No-21.7,Issue Rate	Sqm	16043.50
18	KSRRB M500-17. Providing and laying Dense Graded Bituminous Macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications. clause 505 of MORTH V revisionusing 40/60 TPH capacity H.M.P. with mechanical paver Gr-II (50mm to 75mm) with 4.5% VG-30 bitumen with all lead and lift and as per the direction of Engineer in-charge.I.No.-21.17.6,Pg No.- 160 ,Data Rate	Cum	802.17

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Sl. No.	Description	Unit	Present Measurement Qty
19	Providing and laying Bituminous concrete , using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications. Clause 507 of MORTH V revision - using 40-60 TPH capacity HMP with mechanical paver grading II (30-40mm) with 5.4% of VG-30 bitumen .Page no-162 It. No -21.22.6	Cum	641.74
20	KSRRB M800-13. Road Marking with Hot Applied 'Thermoplastic Compound with Reflectrising Glass Beads on Bituminous Surface / Concrete Surface :- Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications .MoRTH Specifications No.803(Pg.No-182,I.No.24.15,	Sqm	604.20
21	KSRRB M800-35. Supply and Installtion of Moulded Shank Raised Pavement Markers made of polycarbonate and ABS(Acrylonitrile Butadiene Styrene) moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face and shall support a load of 16000 kg tested in accordance to Specifications of Category A of MORTH Circular No RW/ NH/33023/10-97 - DO III Dt 11.06. 1997. The height, width and length shall not exceed 50 mm, 100 mm and 102 mm and with minimum reflective area of 13 Sqcm on each side and the slope to the base shall be 35 degree. The strength of detachment of the integrated cylindrical shanks, (of diameter not less than 19 mm and height not less than 30 mm) from the body is to be a minimum value of 500 Kg. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer (Page No.187. Item No.24.41), SOR 2018-19	No	581.00

With respect to above subject and Package Name, we have inspected the work and the Quality and Quantity of above mentioned items of the work was found to be completed satisfactorily for the **SECOND and PART Bill.**

Thanking You,

With Regards,

for Sapience Consultants and Engineers